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Rural Health Care in Egypt

Nawal El Messiri Nadim

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Nawal El Messiri Nadim

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The author, a faculty member of the American University in Cairo, was seconded to the IICPSR for this project.

Contents

Glossary

al-hawa : air

al-hassad : evil eye

al-amal : black magic

bashusha : smiling face

daya : midwife

halaa cordon : barber of sanitary cordon

halaa isaaf : first-aid barber

halaa seha : health barber

hakima : nurse

haram : sinful

helba : local beverage

henna : red dye

jinn : spirits

kohl : black eye liner

mazaa : twisted back

megabar : bone settler

merkaz : local government town

omda : mayor

sebou : seventh day

samn : concentrated butter

taklia : onion, fat, and tomato sauce used for cooking vegetables.

Introduction

This study describes and analyzes the content and structure of formal and informal health services in rural Egypt, as well as the interrelations between the two systems. It holds that Egyptian villagers consult health practitioners from both systems to maximize available services and that the modern and traditional systems complement rather than mutually exclude one another, being integrated to such an extent that it would be difficult to separate them when attempting to introduce change.

The need for this study became apparent during a project, which was being carried out to determine the acceptability and side effects of methyl-progesterone-acetate (MPA) injectables as a family planning method among villagers. In that project, medical personnel working in a health clinic planned to contact new mothers immediately after childbirth, to inform them about MPA injections, and to follow up accepters to detect and remedy any side effects. When an attempt was made to contact these women it was found that the majority gave birth at home attended by traditional rather than modern health personnel. It was clear that the village midwives and local labourers in the rural health units were ideal sources for obtaining knowledge of births, locating homes of potential participants in the project, and providing easy introduction to the target population. As these people were known and respected by village residents, their presence with the researchers proved reassuring to the villagers as well as informative to the researchers.

The MPA project highlighted the intricate web of relationships among the various groups interested in health matters in rural areas, and it brought out an important fact that had previously been ignored — that is, that any attempt to introduce innovations in health and healing practices at the village level had to take into account the existing structure and relationships. Therefore, a second project — the basis of this report — was planned and carried out, simultaneously with the first, with the following aims:

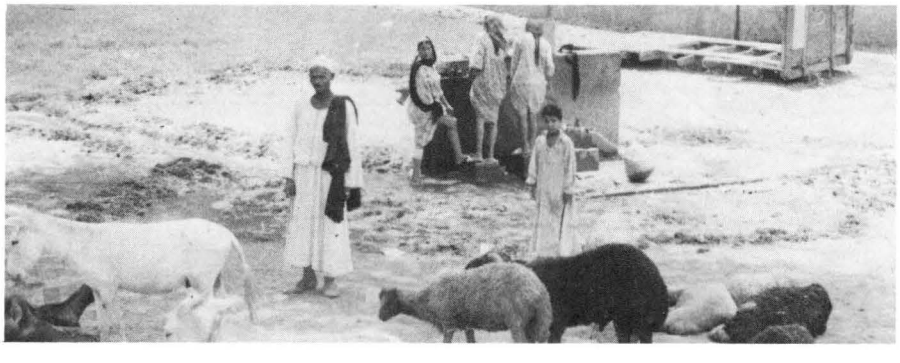
- To identify the traditional healers of rural Egypt, to ascertain their personal backgrounds, qualifications, and attitudes toward healing, and to trace interrelationships among them;
- To identify the personnel of the modern medical system of rural Egypt, identify the hierarchical structure of their roles in health care, and assess their relationship with health agencies outside the village community;
- To reach an understanding of the interrelations between the traditional and modern health systems, and the relation of each with the local community; and finally,
- To assess the knowledge and attitudes of villagers toward illness, treatment, and the personnel of the health systems.

Villagers sell their wares on the street.

Methods and Field Techniques

To meet these objectives, I used several approaches to data collection. The first task was to survey the villages under study to identify the individuals involved in health care, in both the formal and informal sectors. A total of 100 health practitioners were identified and interviewed. Information gathered from them included life histories, descriptions of their repertoires of healing and preventive medical techniques, knowledge of causes of disease and death, and their training in the profession. These case studies also included information about attitudes and behaviour of medical personnel regarding various medical practices and policies.

The case studies were supplemented with intensive research involving relatively long periods of observation, participation, and close contact with the subjects of study. For example, trained observers resided in the villages for 3 months, tape-recording conversations with health personnel and villagers and photographing health-related scenes. The researchers frequently visited informal practitioners to observe their pattern of living and often accompanied them on their calls. Several hours were spent in the village barber's clinic, where he was observed while performing surgical operations such as circumcising male infants, stitching wounds, and opening abscesses. Researchers also attended several deliveries with the midwife and observed her performing rituals in various celebrations related to childbirth. The interactions among the different personnel



Although there is access to pure drinking water, the Nile is preferred.

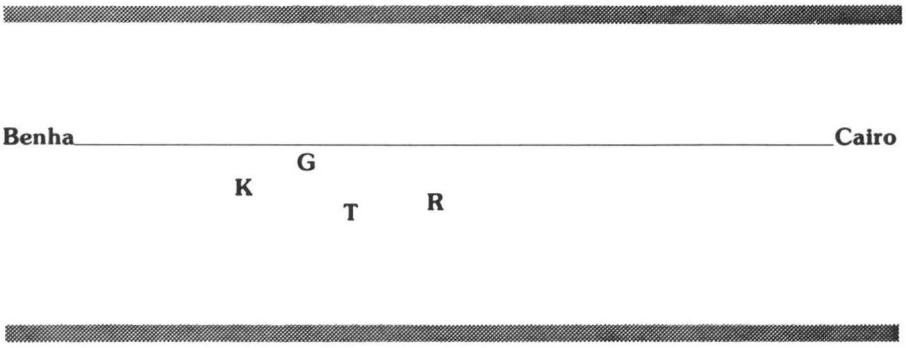


Fig. 1. Location of four villages in relation to Benha and Cairo.

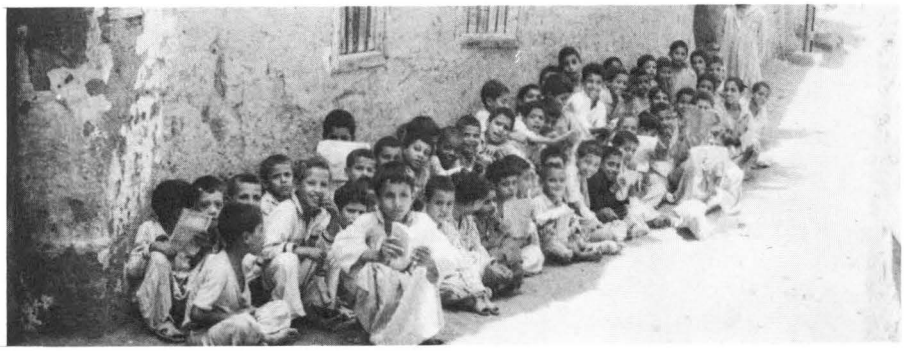
of the rural health units and their communication with their clients were also systematically observed.

In addition to these sources of information, we interviewed 25 couples randomly chosen from among the families contacted for the postpartum project. They included both accepters and rejectors of MPA injections; all had young children and a recently born infant. These individuals were interviewed for information related to the extent of their use of the available health care resources and their evaluations of the existing services.

Villages Studied

The four villages studied, here referred to as T, R, G, and K, are located in Qalyubia governorate, 40 km north of Cairo and 15 km from Benha, the capital of Qalyubia. These villages are linked by an unpaved road, and the radius from the centre of the area over which they are spread is about 2 km (Fig. 1).

The total population of these villages is about 24 000 (T, 14 000; G, 3700; R, 3500; and K, 2800). The population of villages G, R, and K is 100% Muslim. However, T, which has more than half the population of the area, has about 3000 Coptic inhabitants. It is said that in the past T was predominantly Coptic and that the *omda* (mayor) and his chief assistant were Copts. As the number of Copts



Koran school is held in the street of one of the villages.

decreased due to their migration to Cairo, the position of the *omda* was handed over to the Muslims, and the villagers agreed to elect two chief assistants, one a Muslim and the other Christian. Each village has at least one mosque; G has three. T has four mosques and one church; the church serves a meal every Thursday for the poor of both religions.

The proximity of the villages to Cairo and Benha encourages commuting among public officials assigned to the area, such as doctors and teachers. The villages are served daily by two bus routes, one starting from Benha, passing through other villages, and then returning to Benha; the other starting from Cairo, passing through several villages en route to Benha, and then returning to Cairo. These buses are always crowded and in a poor state of repair, but during the daytime a bus generally passes every hour. Limousine taxis are the most efficient and convenient means of transportation and are used mainly by commuters. Fewer than 10 of the villagers have their own cars, the motorcycle and bicycle being much more common and better suited to the rugged and unpaved roads connecting the villages.

The area has four primary schools and one preparatory school. The preparatory school is located in T. Many villagers seeking secondary school education must, therefore, travel to a neighbouring village. In addition, there is an evening school in T for educating illiterate people of both sexes, ages 8–45. About 60% of the people aged 10 years and older are illiterate.

Qalyubia governorate is known for its vegetable and fruit products and is one of the major sources of fresh food for Cairo and Benha. The main crop in the villages studied is fruit, particularly citrus fruit. Some staple crops such as maize and clover are also cultivated. Most of the residents of the villages work in agriculture. There are several government employees such as doctors, teachers, officers, and social workers. In addition there are several artisans and specialists.

T supplies the four villages with carpenters. This profession is monopolized by three Christian families. In each village there are several barber shops, and this is also a hereditary profession. The total number of barber shops in the area is at least 20. There are 12 butchers; nine have shops and the other three sell their meat in the street. There are about 20 grocery stores in the four villages, but there is not a single drug store. Both traditional herbal stores and modern pharmacies are lacking in the area.

A public market is held on Saturday at T, serving the whole area. Inhabitants of these villages and neighbouring ones use this market to buy and sell their merchandise. Traders also come from outside the area to exhibit their wares in the marketplace, thus enabling the villagers to buy products that are not locally produced, such as copperware, textiles, glass, and other necessities.

Two industries are present in the area on a small scale, textiles and straw mats. The owner of the textile mill has 12 hand looms, and all his employees are from the village. They were originally trained as apprentices by the owner. The straw mat industry is in the hands of an outsider who came into the area with his workers, rented a house, and is now supplying the area with straw mats.

There are three sources of water in the villages: the River Nile, water drained from the ground by pumps, and piped water. The presence of pipes or pumps in various houses does not eliminate the use of the Nile water, which is preferred for drinking because of its taste. It is also preferred for washing clothes because the pumped water is hard and inhibits sudsing.

The villagers have access to electricity, but many have not installed wiring in their homes. The current supply is very irregular.

The Formal Medical System

Modern medical healing was systematically introduced during the second half of the 20th century, although, earlier, some attempts had been made in rural Egypt to supplant traditional practitioners as well as to expose them to more professional training. For example, during the reign of Mohammed Ali Pasha (1805–49), an attempt was made to adopt Western medical techniques on a large scale. The Pasha was very concerned with increasing the population and, therefore, made every effort to decrease mortality. In 1832, a school was established for the purpose of forming a new corps of formally trained, government-licenced women, the *hakima*, to replace the traditional *dayas*. The *hakimas* were subject to a 6-year course of study, 2 years of which were devoted to literacy learning. At the end of their studies, they were awarded licences to administer vaccinations, deliver infants, and treat women and children free of charge (Kuhnke 1974).

In the major cities, the *hakima* has long been crucial in providing vaccinations to women in the upper classes. In the rural areas, however, she has only recently played a significant role, although she was often called upon to verify the cause of death of rural women (Kuhnke 1974).

Although the *hakima* school continues to be important in the Egyptian public health system, its graduates have failed to replace the local *dayas* in the countryside. During the British occupation, professional nursing was dominated by Europeans and the *hakima* training centre was not encouraged to expand beyond a simple trade school. As a result, the public image of the *hakima* gradually declined. Ironically, her public image today is nearly on par with the *daya* whom she was trained to replace (Kuhnke 1974).

Government attempts to upgrade traditional practitioners were somewhat more successful than its efforts to supplant them. For instance, the government instituted examinations designed to train and licence village barbers, who by tradition were central figures in rural health care. The idea was to prepare them to undertake medical responsibilities that would otherwise be left undone because of the shortage of trained medical personnel. Any barber who passed the government tests became an agent of the state, qualified to prepare death certificates, administer vaccinations, circumcise boys, dress wounds, etc. The training scheme was abandoned later, but today a few licenced barbers still practice and unlicenced barbers who practice medicine are common.

A major advance in the introduction of Western medical techniques into the Egyptian villages occurred in 1942, when a law was issued permitting the construction of several rural health units. By 1955, 168 health units had been established in the provinces of Sharqiya, Minia, Dakahliya, and Damietta. At present, the Ministry of Health supervises 2237 rural health clinics.

The Combined Unit

In 1956, a health clinic was established in K of our study, as part of a "combined unit," the local government centre that offers services in health, welfare, education, and agriculture. The single health clinic served all four of the villages in our investigation until 1971 when a health subunit was constructed in T to meet the villagers' increasing demands.

Although K had the smallest population and was not centrally located, it was chosen as the site for the combined unit because a local resident donated the land for the building. The location of the unit is very significant because the relative distance that clients have to travel correlates highly with their use of the services.

The combined health clinic and the subunit at T differ in the extent of their medical facilities, the number of personnel, and the amount of medicine allotted to them by the Ministry of Health. The combined health unit was constructed basically to serve as an acute care centre and includes a hospital containing a small ward, an operating room, an outpatient clinic, a laboratory, and a dispensary. In contrast, the subunit was constructed basically for maternal and child health care and, therefore, contains only an outpatient clinic, a laboratory, and a dispensary.

Another difference is in the construction of the buildings. The combined health unit consists of two floors, the first comprising a room for booking clinic admission tickets; a telephone room; a dispensary; a corridor with a room for child care; a room for dressings; an examination room; and offices for the doctor, the health inspector, and the clerk. On the second floor is the inpatient section, consisting of an operating room and several rooms for patients, with a total 10 beds. On the same floor are living quarters for the nurses. Annexed to the building is a separate unit for the dispensary and the laboratory. The doctor's residence is a small house adjacent to the unit.

The subunit consists of an outpatient clinic and a room for maternal and child health care, above which are the nurses' quarters. On the other side of the subunit is the clerk's office and over it, the doctor's living quarters. The centre of the building consists of a number of rooms: a telephone room, a storeroom, a laboratory, an examination room, and a dispensary.

Despite the general differences in the medical facilities the day-to-day operations of the units are comparable because the inpatient section of the combined unit has been closed for about a year due to a shortage of funds and of basic medicine. Moreover, the operating room of the unit at K is rarely used, as the doctors in charge do not like to perform surgery without adequate equipment and supplies.

The medicine budget set by the Ministry of Health for the combined health unit at K is £E. 500 per month, whereas that of T is £E. 200. The doctors of the area commented that the quantity of medicine received depends to a certain extent on the relationship between the doctor and the chemist in charge of the centre's stores. If the relationship is good, the doctor receives more, and more varied, medicine than he or she would otherwise. Thus, one centre's ration may consist only of Novalgin, sulpha, and aspirin, whereas another centre receives antibiotics, vitamins, and injectables.

Altogether the unit at K employs 33 individuals, and that of T has 24. Thus, the four villages are served by a total 57 individuals working in the formal health sector. The contrast in the number of employees at the two units does not result in significant differences in the services offered. The most significant difference

between the two units is in terms of the amount of medicine allocated to each by the central administration.

Services of the Health Units

Outpatient Clinic: All villagers are entitled to a physical examination by the outpatient clinic doctor. The fee depends on the type of examination the patient requires. The examinations are of three types:

- Ticket examination is the one available to the majority of patients. For 5 piasters, the villager buys a clinic ticket that entitles him or her to a consultation with the doctor who prescribes some medication available at the clinic dispensary. Usually, the prescription consists of vitamins, Novalgin tablets, or cough syrup. In almost all cases, the doctor's examination is only verbal. It would be impossible to give a more thorough checkup to these patients, as the village clinic receives an average of 200 patients daily. The 5-piaster fee paid by the patient is recorded and regularly transmitted to the *merkaz* (local government unit). This money is later allocated to the unit to be used in the maintenance of the clinic. Often, the money is spent for replacing or repairing equipment lost or damaged by staff members, but it is also used for wages for seasonal workers in the clinics. Occasionally, after immunization campaigns, the Ministry of Health allocates part of this sum to be distributed as bonuses to clinic staff.
- Special examination is more thorough and expensive than the ticket examination. Patients pay 5 piasters plus an additional fee of about 25 piasters. This fee differs from doctor to doctor and sometimes from patient to patient. Occasionally, if the doctor and the attendants are aware that the patient is very poor, a special examination is given without charge, and some doctors refuse to take any extra fees for special examinations.

The fee entitles the patient to a physical examination with a stethoscope and a free dose of medicine selected by the doctor from among the medicines available at the clinic dispensary. If the required medicine is not available at the unit, a special prescription is written by the doctor and the patient must purchase the medication from a pharmacy. Money accumulated from this type of examination, if any, is divided among the doctor and clinic staff.

- House calls are usually the most expensive because the doctor visits the patient at home. Unless the patient's condition is critical, house calls take place after clinic hours. A patient from a wealthy and prestigious family may prefer to summon the doctor rather than visiting the clinic. The fee for a house call within the same village as the health unit is 50 piasters. This price generally doubles if the doctor must travel to a distant village. Revenue from these visits is distributed among members of the clinic staff, with the doctor receiving the largest portion. Often, the transportation is provided by the patient's family and may be a car or a donkey. At times, the doctor borrows a bicycle from a clinic attendant to make a house call.

Maternal and Child Health Services: A pregnant woman may register at the clinic. She is expected to bring a notebook in which the assistant midwife records information such as age, number of children and their ages. At her first visit, she is given a general examination by the doctor; at monthly visits thereafter, her pulse, temperature, and blood pressure are registered in the notebook. The assistant

midwife, through external examination, keeps track of the progress of the woman's pregnancy.

Two days in the week are reserved for the care of pregnant women, one for new cases and the other for follow-up treatment. A pregnant woman is entitled to free medication within the limits of dispensary stores. In general, this medication comprises iron and vitamin pills.

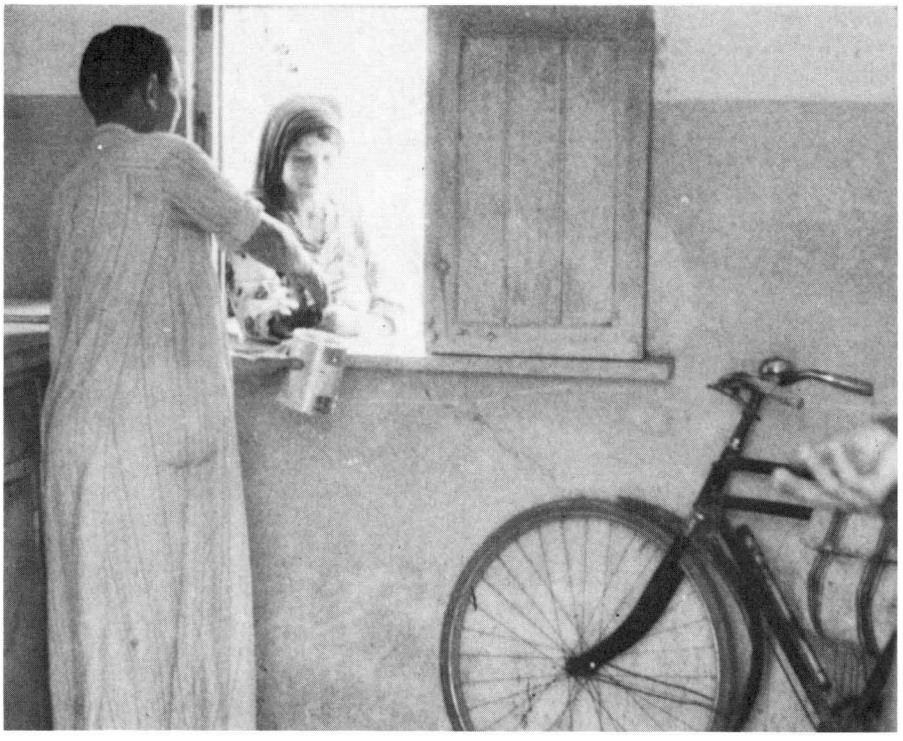
The child health care offered at the units is basically limited to vaccinations. Parents are fined if they do not have their babies inoculated against diseases such as polio, diphtheria, and smallpox at the proper time. Most parents cooperate with the clinic in these matters, as they recognize the benefits of the inoculations. However, they are not aware of the importance of having the inoculations at the proper time. This situation is aggravated by the fact that the vaccine is not always delivered regularly. Thus, the children sometimes are not vaccinated on schedule. When serum arrives, health unit staff members make every effort to get the parents to bring their children to the clinic, even hiring village criers to announce its arrival. Due to inefficient refrigeration, the doctors fear that the serum will spoil unless used immediately.

Family Planning: The health units distribute contraceptives as part of the national family planning program. Administering the program in the village health unit is the responsibility of the assistant midwife under the supervision of the doctor. She is in charge of distributing the pills and maintaining follow-up records. An average 200 packs of birth control pills are sold monthly to the residents of these four villages. Nevertheless, current records reveal that there has been a significant drop in pill sales during the last year. The introduction of the experimental research on the postpartum MPA injections is believed to be responsible for the decrease, and the assistant midwife has commented that several women stopped using the pill to become pregnant and thus become eligible for the postpartum injections.

Birth and Death Registration and Immunization: All four villages have a telephone operator with a direct line to the main health unit in K. In the two villages with health units, the parents of a newborn child are responsible for reporting the birth to the central unit within 2 weeks. In principle, parents failing to do so are fined. At present, all the data necessary for a birth certificate are written on notification forms and are relayed weekly to the office of civil registration. The registration office forwards the birth certificate to the village clinic, which delivers it to the parents, who are charged 10 piasters for the service. In the two villages that do not have clinics, midwives of the villages are traditionally and informally responsible for reporting all new births to the telephone operator, who in turn notifies the clinic clerk.

Although late registration is illegal, it frequently occurs. It sometimes takes the midwife or the parents months to report the birth of a child. Thus, frequently an infant dies before being registered, and neither the birth nor the death is registered.

When a death occurs, every measure is taken to hasten the burial. Muslims say that enhancing the burial of the dead is a favour. In the past, the health barber certified deaths, but now the doctor issues burial permits. As in the case of births, the health unit notifies the civil registration office. This office does not provide a death certificate unless the family requests one, and the certificate is not delivered.

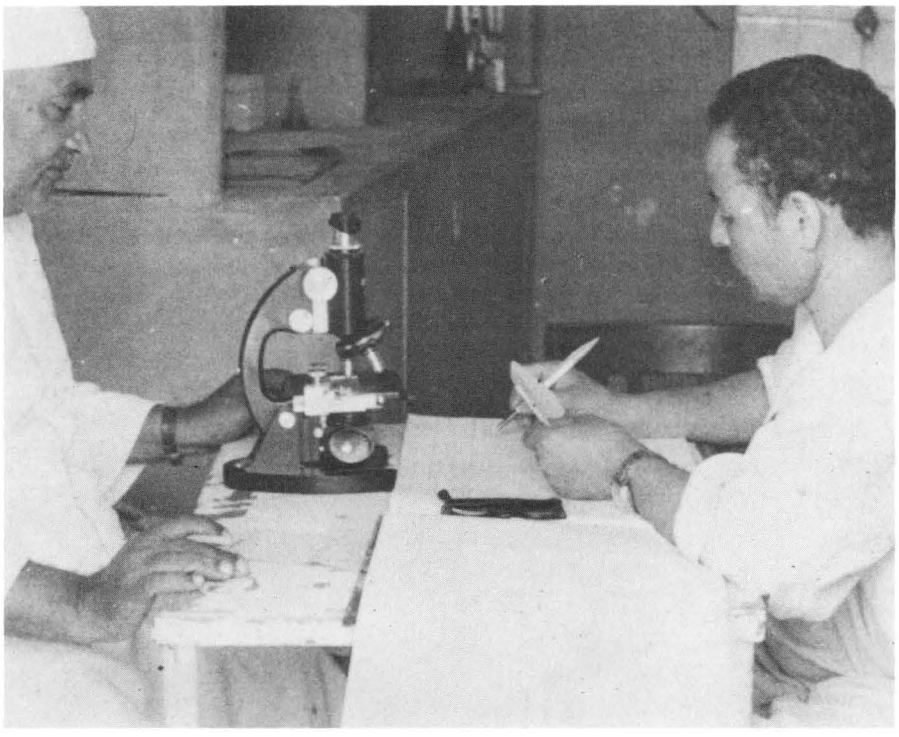


The clinic attendant dispenses medicine from the clinic.

The presence or threat of a major epidemic mobilizes all the workers in the health units. Literate employees are often asked to keep careful records of the progress of an immunization campaign, and all those capable of giving injections do so. Unskilled workers notify all neighbouring villages about the inoculation program. In most cases, the doctor and the staff travel from one village to another, visiting homes.

The Dispensary and the Laboratory: Villagers believe that medicine is the basic tool of the doctor. A health unit is evaluated on the basis of the quantity and quality of medicine in its dispensary. Similarly, the reputation of the doctor is closely related to his or her power in obtaining medicine and generosity in prescribing and distributing it. Very often, the monthly ration of medicine is exhausted before the arrival of the next supply, and hardly a villager will approach the health unit. Before visiting the clinic, a patient asks a neighbour about the availability of medicine in the health unit. If the supply is low, the villagers go either to another clinic or to a private doctor in a nearby town, feeling that if they must buy their own medicine at least they will go to a doctor of their choice.

Patients prefer injections to any other type of medication, a fact that came to light during the study of postpartum injectables as a family planning method. Second to injections, and nearly equal in value, are syrups, particularly those with a bitter and unpleasant taste. Coated pills are preferred to uncoated ones, as they are believed to be produced abroad. In general, foreign medicines with foreign labels are thought by the villagers to have better remedial effects.



Urine and blood analyses are performed at the health unit.

Table 1. The health units' staff.

Employees	Unit at K	Subunit at T
Resident doctors	1	–
Commuting doctors	1	1
Assistant midwives with nursing diplomas	4	2
Assistant midwives	2	1
Clerks	2	1[a]
Assistant laboratory technicians	1	–
Technicians	–	1
Health inspectors	1	1[b]
Dispensary attendants	1	1
Telephone operators	1	1
Electricity technicians	1	–
Labourers in laboratory	1	1
Male labourers and attendants	14	12
Female labourers and attendants	3	2

[a]Doubles as laboratory technician.

[b]Of lower rank than the inspector at K.

The village doctor examines the eyes of a patient.

The laboratories of the health units are equipped with basic equipment for urine, stool, and blood analyses. These services are offered free of charge and are performed by the laboratory technician at the doctor's request. Frequently, analyses are performed to trace the occurrence of parasites in the stool and urine and to measure the hemoglobin value of the blood. According to the laboratory workers, 75% of the patients have ancylostomiasis (hookworm) and ascariasis (roundworm), and 70% suffer from schistosomiasis (liver fluke).

Personnel of the Health Unit

The employees (Table 1) of the two health units are either formally or self trained.

Formally Trained Staff: In both units, the doctor is a general practitioner who directs and administers the health unit in addition to his or her clinical duties. The administrative and organizational aspects of running the health unit consume a significant amount of the doctor's time and energy. For example, the process of acquiring and recording medicines is extremely tedious and exhausting. One doctor described these procedures:

> ...When the health unit is in need of medicine I write a requisition stating the amount and type of medicine needed. A worker of the clinic takes this requisition to the *merkaz* (local government administrative centre) using

public transportation. He comes back with information about the availability of medicine in the stores. I myself then go to the *merkaz* the following day. Two workers accompany me on this trip. Since we do not have a car, they have to carry the medicine and help find a cab. Sometimes in the process we break medicine bottles. We are responsible for the cost of such damage. We try to compensate the loss through revenue from examination tickets. But, of course, this entails lots of paperwork. Last month I got my ration of medicine after visiting the distributing centre for four consecutive days. Each day I'm given only a portion of my requisition and I'm informed that the rest will come tomorrow. Unfortunately, on such days the clinic cannot receive any patients. More often I don't receive exactly what medicine I have requested but some other supplements.

When receiving the medicine I sign two copies of a form stating the names and amounts of medicine supplied. Later, the medicine which I prescribe daily is recorded and at the end of the supplies the records are prepared so that the inspector can check them.

Another administrative problem faced by the doctors is that of overstaffing in the health units. The doctors believe that, generally speaking, the presence of such a large number of employees reduces their efficiency and creates considerable friction. Furthermore, any bonus granted to the workers is usually distributed evenly among them all, thus rendering each share negligible. Because most of the employees are from the same villages, the doctors find it difficult to discharge any of them.

The health units employ several trained workers besides the doctor.

First, there is the nursing staff, which is composed of five nurses and four assistant midwives. Although the nurses receive 3 years of training in health after completing preparatory school, the assistant midwives receive only 1.5 years. Theoretically, the duties of the nurses include reception of the patients, assisting in the operating room, and follow-up care. In contrast, the assistant midwives care for pregnant women, overseeing childbirth, family planning, and vaccinations. The Ministry of Health offers a 6-month training course in midwifery for nurses who hold diplomas, but the course graduates in the villages are considered as assistant midwives because they perform similar duties. Their additional training is not fully utilized in the area, because the *dayas*, the traditional midwives, are still in charge of almost all births. The villagers expect that with age, a midwife gains precious experience, and, thus, they hesitate to call upon the formally trained midwives of the health units, almost all of whom are in their early 20s (one is 19 and another 29). Similarly, the assistant midwives themselves are not keen to be called upon. They are all from the area, and they know and respect the *dayas,* whom they believe to be more capable than they in handling actual deliveries.

The second group of formally trained employees are the laboratory assistants. In each unit there is one laboratory assistant, and both of them are from the area. Both had originally worked in the health units as clerks, and, when the Ministry of Health announced a 6-month training session for laboratory assistants, they registered and graduated to their present jobs. One of them decided to keep his position as a clerk as well.

The health units are also served by a health foreman and a health inspector. Neither of them is a full-time staff member, but they both visit the health units several times weekly. Their formal training is provided by the Ministry of Health, mainly in the area of preventive medicine. They are responsible for ensuring

environmental cleanliness, combatting epidemics, and developing health awareness among people. The health foreman is concerned mainly with preventive techniques, whereas the health inspector is mainly responsible for distributing government nutritional supplements.

Self-Trained Staff: Self-trained staff members are in the majority. Among them are clinic clerks, storage supervisors' attendants, cleanliness workers, laboratory workers, and dispensary officers.

The health units have three clinic clerks who are required to have a good knowledge of reading and writing. Usually no official training is required for clerks; new clerks are trained by older ones. The clinic clerks are vital to efficient operation of the health units. They are primarily responsible for:

- Registration of births and deaths;
- Preparation of vaccination registers during the Ministry of Health campaigns and supervision of vaccination sessions;
- Preparation of the annual census for the Ministry of Health, either compiling new registers or correcting old ones;
- Supervision of all equipment and supplies in the health unit, delegating some of the work to other workers;
- Sharing in the financial and administrative responsibilities of the doctor, including issuing salaries to employees and granting compensation for transportation, distributing annual bonuses to workers, and acting as the treasurer responsible for all income and expenditure;
- Organizing and keeping records of annual vacations, incidental leave, and overtime.

In sum, all financial and administrative functions are delegated to the clerk by the unit's doctor. The clerk signs all incoming and outgoing correspondence and documents, which are then cosigned by the doctor.

There are two employees in charge of the dispensary. Their main job is:

- To accompany the doctor to the *merkaz* to obtain medicines every month;
- To prepare medicines, i.e., repack them from large containers into individual lots;
- To distribute medicine prescribed by the doctor and to inform the patient of the method of use;
- To make a periodical inventory of the dispensary.

Basically, the dispensary assistant is responsible for the running of the dispensary and has no other duties in the clinic.

Two attendants assist the doctor with medical care. They give injections and help with dressing cuts and burns. They are responsible for the maintenance and cleanliness of all equipment.

In addition to these employees, there are about 12 other workers assisting the various staff members. Thus, the laboratory technician has an assistant worker who weighs the patient, takes and prepares samples. Similarly, the dispensary attendants each have two workers who assist them. Thus whenever there is a female patient, a female worker is available to be present with the doctor in the

examination room. She helps the woman to undress and prepare for the examination. Two other workers in each of the clinics act as doorkeepers to prevent the intrusion of outsiders during an examination. The rest of the workers are assigned tasks related to keeping the health units clean.

Relations between the Health Unit and the Community

All the health unit personnel, with the exception of the doctor, are from the local area. Many of the male employees have joined the health unit because of previous family involvement in the domain of traditional health care. For example, sons of health barbers and health barbers themselves were among the first recruits to the health units. These individuals found the health unit to be an excellent means for further developing their traditional knowledge. Even individuals who join the health units without a family history in the healing profession acquire skills and practice their new profession privately. Thus they acquire a role and status similar to those of the traditional health barber.

All the employees gain numerous benefits from affiliation with the health units. Firstly, they have firsthand contact with a medical doctor from whom they gain experience and knowledge. They also develop a new role. The villagers perceive the health unit personnel as an extension of the doctor and accord them a similar status. Secondly, by being in the health unit, the workers have access to knowledge about medicine, which to the villagers is the basic tool of modern medical care. They are able to learn what type of medicine is prescribed for a given symptom. They observe the doctor listening to the patients' descriptions and then prescribing a certain medicine. Thus the absence of modern medical tools in the health units lessens the gap between the doctor and auxiliary personnel. Moreover, by acquiring knowledge about the use of medicine, these employees feel competent to cure certain ailments.

Another benefit of affiliation with the health unit is learning how to give injections. Doctors rarely give injections, this being a job done by the staff of the health unit. Because injections are highly valued by the villagers, the skill to give them is widely sought and adds to one's prestige in the health profession. Thus, almost every employee of the health unit practices giving injections, and several of them have taught the skill to their spouses, hoping to attract clients who are not comfortable receiving injections from a member of the opposite sex. The result of these practices is the "injection syndrome," which involves not only administering injections but also often diagnosing an ailment, prescribing the type of injection required, purchasing it, and then giving it. The syndrome has reached the extent that one practitioner composed his own liquid for injection from milk.

A final benefit of working in the health unit is having access to clients. A health barber who works in the clinic has more customers than one who is not affiliated with the clinic.

In many ways, the extension of the role of doctor to the staff is meritorious; for one thing, no one could claim that the two doctors effectively attend to the health needs of the more than 24 000 individuals in the catchment area. There is a symbiotic relationship between the doctor and health unit personnel. The doctor is officially responsible for medical care and thus eagerly gives information to staff, encourages them to report problems, and provides support. The relationship between the doctor and the staff is not purely a superordinate–subordinate one but rather a more pragmatic one.

The Informal Medical System

Daya

The area under investigation is served by 11 *dayas*, traditional midwives, who are responsible for 94% of all deliveries. Of the 686 births occurring between February 1977 and February 1978, only 27 were attended by a doctor. Three were served by the assistant nurses, and 10 were assisted by neighbours or relatives. All the rest were taken care of by the *dayas.*

The *dayas* are aged 35–73, and all entered the profession before reaching age 25, two women beginning their careers as early as age 12. Thus marriage and motherhood are not necessarily considered prerequisites for entering the profession.

Knowledge acquired through hereditary ties is the most important means by which young women become midwives. Seven of the 11 *dayas* learned their profession from their mothers; one acquired her skills through her maternal grandmother, and one through her maternal aunt, who later became her mother-in-law. Although most of the *dayas* were trained while accompanying their mothers during deliveries, two *dayas* acquired their skills through nonhereditary means. One was trained while working as a nurse in the clinic, and the other, who entered the profession at age 25, lived in a village where there were no active midwives. Two elderly midwives had once served the village but died without transmitting their knowledge to their descendants. Upon realizing that the villagers were forced to turn to midwives from neighbouring villages, this young woman affiliated herself with an active midwife in a neighbouring village to acquire some skills, and then attended the school of midwifery. Three of the eight women with hereditary links in the profession also attended the midwifery school.

At the school, the *dayas* received 9 months of practical training during which they were taught basic principles of hygiene and of maternal child health. They were also instructed on how to recognize complicated cases of childbirth.

Although literacy was, theoretically, a prerequisite for entering midwifery school, these women are now nearly illiterate from lack of practice. (Neoliterates in villages do not usually have access to reading materials that are appropriate for their level of reading skills.) The other six *dayas* received no formal training and are completely illiterate. All the husbands are illiterate. Eight of the 11 *dayas* are married to farmers; one is married to a health barber, a second to a regular barber, and a third to a guard.

It is significant that none of the *dayas* in the area are training their daughters as midwives, whereas most of them acquired their skills this way and at a very early age. It appears that no young women are currently entering the profession through traditional routes.

The *dayas* were asked to describe the qualities that make a good midwife. Although their responses varied, none of them mentioned technical skills, the source and duration of training, or the use of particular tools. Their responses

primarily comprised personal attributes. Attributes that were emphasized included good vision, good health, and intelligence. Emotional stability was mentioned by several *dayas;* they explained that a good midwife must have a strong heart and that she must be courageous and not easily frightened. She must be responsible for carrying out a clean, safe delivery as well as being conscientious in caring for the health of mother and child after birth.

The *dayas* also emphasized the importance of qualities involved in interaction between the midwife and the expectant mother. A good *daya* is aware of her responsibility for calming the mother during delivery and for helping her to forget her pains. She must, therefore, have a smiling face (*bashusha*) and be tender. Great patience is also necessary, as a good *daya* must not rush delivery but must take great care that the birth proceeds at its own pace. Moreover, a good *daya's* awareness of the physical condition and needs of the mother must extend to an awareness of the mother's financial situation. The eyes of a good *daya* are full (*eineha maliana*) — that is, she must willingly accept whatever payment she is offered, being aware that at times she will give more than she will receive.

General Knowledge and Beliefs

When questioned as to the time in which conception is possible, all 11 *dayas* responded that a new pregnancy is the gift of God and is determined by His will alone. However, they differed in their beliefs about the cyclic period when a woman is physically capable of conceiving. Several *dayas* mentioned that conception may occur any time between the termination of one menstrual period and the onset of the next. In contrast, several others explained that the period during which conception is physically possible is much shorter, stating that for 7–10 days following the completion of menses the uterus is in a state of "disgust" and will not accept a new pregnancy. Also, they regarded conception as being impossible for 1 week before menstruation, because, they explained, the uterus is too "full" to accept the male seed. Finally, these *dayas* stated that conception is precluded for 40 days following the birth of a child, as the uterus is still open and in a state of extreme "disgust."

The *dayas* all agreed that the sex of the child is determined by God alone; several of them insisted that they would not be able to determine the sex of the fetus before delivery. However, when the subject was pursued, they admitted that several signs during pregnancy and delivery enabled them to foretell the sex of the child. The abdomen of a woman carrying a girl, they explained, is rounder and larger, whereas that of a woman bearing a boy is smaller and more elongated. A woman is expected to experience greater discomfort and poorer health during pregnancy if she is carrying a male child. The mother of a girl will be prettier and fatter. These beliefs are summarized in the proverb: "When pregnant with a bride, the mother will look like a bride, and when pregnant with a groom, the mother will look gloomy."

During delivery, additional signs as to the sex of the child are evident. Although the male child is expected to cause greater discomfort during pregnancy, the birth of a boy is believed to be less painful than that of a girl. Moreover, the pain of male childbirth will centre in the back, whereas that of a girl is expected to be more acute and experienced under the navel. Finally, the *dayas* stated that a male child is born with his face toward the mother's back, whereas a female child will be born facing upward. The strong natural bonds that are believed to unite mother and daughter are thus reflected in the idea that a girl turns

A midwife places kohl in the eyes of a baby.

toward her mother from the beginning, facing her from the moment of birth just as she will face her throughout her life.

The *dayas* stated that they are unable to determine definitively whether a woman is pregnant until the 3rd month, as, prior to this time, the fetus has "no body" and is therefore not recognizable. However, they said that during the first 3 months a woman may exhibit certain symptoms such as dizziness, vomiting, paleness, headaches, change in the colour of the nipples, and changes in dietary desires, that lead them to suspect pregnancy. Her face is said to "glow" and be smaller, her head heavy, and her walk distinctive. Yet it is only after the 3rd month of pregnancy that the fetus — that "piece of meat" — congeals, thereby enabling the *daya* to diagnose pregnancy through physical examination. If a woman is pregnant, her uterus is round like an orange, and her breasts are larger, secreting a yellow liquid when squeezed.

The *dayas* estimate the relative duration of pregnancy by the movement of the fetus. During the 3rd and 4th months, the fetus is located just below the navel, dropping to the bottom of the abdomen during the 5th and 6th months. From the

7th to the 8th months, the fetus moves upward to just below the breasts. Finally, in the 9th month, it again drops down to the lower abdomen.

Knowledge of the time of delivery is also ascertained by a physical examination. If the uterus is very low and open enough to permit the entrance of two fingers, then the *daya* knows that the woman is ready to give birth. According to the *dayas*, judging the proper time of birth on the basis of contractions and cramps is undependable, as a woman may get premature cramps identical to those of childbirth. A woman complaining of such cramps is examined, and if the *daya* finds that the uterus is still closed, she asks the expectant mother to eat an egg fried in oil. It is believed that premature pains will then disappear. Premature pains are believed to be caused at times by an unpleasant smell.

The *dayas* mentioned that all pregnancies are normal, and that complications develop only at the time of delivery. Several techniques are used by the *dayas* to offset such complications. For example, if during delivery the uterus is open but the contractions are slow, the *daya* will give the woman some sugar to eat. Sometimes the *daya* will ask "one of those who carries a briefcase" to give the woman a calcium injection if the complication continues.

After the birth, the *daya* advises the mother to avoid several foods. She must not eat food cooked in *taklia* sauce, or in *samn* (concentrated butter). The drinking of water after the birth is to be avoided, as it is believed to cause cramps. Hot *helba* is recommended as a substitute beverage. In addition, the mother is advised to eat an entire boiled chicken or some other large piece of meat. This is very important, as the meat is needed to replace the child and to "hold the heart in place."

The *dayas* are aware of the existence of various microbes that may cause illness if proper cleanliness is not maintained during delivery. They mentioned, for example, that some women prefer to give birth while lying on the bare ground so as not to soil their sleeping mats. Although the *dayas* say that they strongly advise against this practice, it is nevertheless still common. The persistence of this practice may be attributed to several factors. First, the *daya* may be aware of the danger of this practice and yet not appreciate its extent. Second, the *daya* operates within the basic principle of comforting and pleasing the client and therefore will not insist that the client follow her advice.

Similarly, the *daya* does not insist upon bathing the newborn child if the mother objects. If the child's family requests that the *daya* bathe the baby, she will do so, but if they do not she never presses the issue. Above all, the *daya* wishes to accommodate the mother, recognizing that women differ in their attitudes, expectations, and needs during childbirth.

Technical Knowledge of the *Daya*

The villagers regard pregnancy as a natural state of womanhood that does not require consultation with a professional during its early stages. Accordingly, the pregnant woman does not contact the *daya* until the time of delivery, and the *dayas* admit they could do little for her before this time. Nevertheless, women who are experiencing the physiological changes of pregnancy for the first time sometimes do consult the *daya*. The *daya* assures the woman of her pregnancy with a physical examination and congratulates her. The newly pregnant woman is advised to abstain from certain acts such as the crossing of wide canals, the climbing of ladders, and the carrying of heavy loads. However, if serious and

obvious complications develop during early pregnancy, the *daya* advises the woman to lie on her back and to wash with cold water. If bleeding is present but not heavy, the *daya* will have the woman consult the clinic doctor so as to obtain fortifying pills.

The *daya* follows the condition of her client closely. Bleeding that occurs during the first months of pregnancy, however, is not regarded by the *dayas* as serious unless a hemorrhage persists. In this case, the *daya* advises the woman's family to get an ambulance and transfer her to the nearest hospital. Meanwhile the *daya* cares for the bleeding woman by having her raise her legs and lower her head. If she faints, the *daya* "awakens" her with the smell of raw onion. The *daya* will accompany the bleeding woman in the ambulance and make all arrangements with the doctor and the hospital.

Various accidental occurrences and emotional strains were cited by the *dayas* as causing miscarriages. A spontaneous abortion may result when a pregnant woman lifts a heavy load, travels in a car, falls on her back, or crosses a wide canal. Her miscarriage may be the consequence of a marital quarrel in which her husband beats her. Anger and sheer exhaustion, the *dayas* explained, may also cause miscarriages. Only when none of these accidental or emotional states occur does the *daya* attribute miscarriage to a physical condition requiring consultation with a doctor.

If a miscarriage is attributed to a too "small stomach," the *daya* will accompany the woman to the doctor, who "ties" the uterus for her. If miscarriage does not appear imminent, the *daya* asks the woman to rest on her back, placing cushions under her lower back and head. Pads of cold water are placed on her "stomach" and head, and she is advised to abstain from drinking hot beverages. If the woman's condition does not improve, a doctor is consulted, as it is believed to be dangerous if part of the fetus remains in the pregnant woman's "stomach."

A spontaneous abortion may also be due to weak ovaries or various venereal diseases. In the latter case, the woman and her husband are both advised to receive treatment from a doctor.

Excessive bleeding, pain, and cramps causing miscarriage in the 6th month of pregnancy are treated by the *daya* as a normal delivery. The *daya* waits for the emission of the "yellow water," and if it is delayed, she accompanies the woman to a hospital.

All 11 *dayas* stated that they regarded induced abortions as *haram* — sinful. Each midwife, however, admitted that she knew various techniques for inducing abortions and that in the past she had practiced abortion at one time or another. Techniques of inducing abortion included inserting a particular plant or a knitting needle into the uterus; the *dayas* also stated that drinking kerosine purgative or the boiled leaves of onion will result in miscarriage. It is now the practice, they explained, only to accompany the pregnant woman to a doctor who will perform the operation. Although all *dayas* maintained that they do not at present perform induced abortions, they accused each other of the practice.

The two principal reasons cited for a woman's seeking an illegal abortion were illegitimate pregnancies and an excessive number of children. The *dayas* explained that in the past an unmarried pregnant woman would be killed. However, these days there is an increasing frequency of such pregnancies, and the woman's family now seeks the assistance of a midwife.

As the "pill" is believed to cause weakness, the villagers prefer not to use it. Thus, a pregnant woman whose health is poor or who feels she has too many children will seek an abortion from a *daya*.

The *dayas* believed that at the time of birth the fetus passes from the "stomach" into the uterus (*beit al weld*). If the *daya* is able to feel that the head of the child has entered the uterus, she then knows that the mother will soon give birth.

A *daya's* task during delivery is composed of a number of duties. She endeavours to give support, encouragement, and instructions to the woman. After the *daya* has examined the woman, she sits by her side, supporting her back if she prefers a sitting position or holding her hand if she wishes to give birth while lying down. In the early stages of labour the *daya* will advise the woman not to push too strongly as she should conserve her strength. One *daya* was taught by her mother to give the expectant mother an enema of warm water and soap during labour so that she will not "mess" the newborn child.

One *daya* explained her role during delivery as follows: "While she is giving birth, I help her with only two fingers to widen the uterus opening. At the same time, I support her anus with my hand and a piece of cloth so that all the pushing will be directed toward the uterus." When the time of delivery approaches, the *daya* attempts to quicken the contractions by asking the woman to eat some sugar and two boiled eggs. It was mentioned that at times a woman will object to eating the eggs and consume only the sugar. An enema is sometimes used to speed up the contractions.

Once the child is born, the *daya* presses on the woman's abdomen to force the afterbirth out. "We should not cut the afterbirth before the baby comes out, for the cord could be pulled up and then the uterus might close up again, making it impossible to take out the afterbirth except in a hospital," said one *daya*.

If the newborn child does not cry, the *daya* places the afterbirth in cold water in an attempt to induce the child's breathing. If this technique fails, then the midwife knows that the child is stillborn. Some of the *dayas* explained that they would turn the newborn upside down and slap him on his or her bottom or hold a raw onion under his nose to induce crying.

The proper place for cutting the umbilical cord varies from one child to another. A weak, thin umbilical cord should be cut four fingers' width from the child's stomach, and a thicker cord may be cut as short as one or two fingers' width. Several *dayas* also stated that they tie the umbilical cord twice, one knot being at a distance of a finger's width from the other.

The *dayas* commented that most villagers prefer not to bathe the newborn, as they fear that the child might catch cold. In general, therefore, the *daya* simply dresses the baby and places him or her in a large woven sieve beside the mother. The mouth of the child is then wiped in case blood has penetrated inside.

The *daya* then turns to care for the mother, massaging her body and pressing upon her abdomen so as to force all remaining blood out. In addition, the *daya* lifts the woman onto her back so that her back and the woman's stomach meet. She then jumps, holding the woman in this position, allowing all remaining blood to drain from the woman. The woman is then washed and left to sleep.

The *daya* places no restrictions on who is present at the delivery. Generally, the *dayas* agreed that they did not mind the presence of many villagers as they might be of assistance. The *dayas'* desires to accommodate the expectant mother's wishes are clear from the following quotation:

> ...It is not my business to tell them (visiting villagers) to stay or go away. It is up to the woman herself. Some women prefer to be alone during childbirth. However, the woman could have as many people around as she wants. She could gather the whole village. I don't want to make enemies with anyone.

All *dayas* outlined a series of complications possible during delivery and agreed on the treatment of such cases. A normal birth was defined as one in which the child's head emerged first; however, a case in which the baby's legs appear first is considered normal if the uterus does not close before the child's head comes down. A child born in any other position requires that the *daya* either try to turn the child in the womb or seek the assistance of another professional. For example, if the child is born with legs entwined, a doctor is needed. The *daya* either calls the doctor to come to the home of the woman or, if this is impossible, accompanies the woman to the doctor's clinic (20 km away in the nearest town). If one leg of the child comes out first, the *daya* tries to pull out the other leg. Great care is necessary in turning or pulling the child to avoid extracting the umbilical cord first, possibly delaying delivery, and allowing the child to catch cold and die in the womb. The *daya*, therefore, attempts to "put the cord back."

When a baby is born in the squatting position (bottom emerging first), the *daya* attempts to grab the child's legs and pull them out first. However, if the legs are already stretched, a doctor is needed. Problems also arise if the baby's face fills the vagina first. If the *daya* is able to pull the jaw first, a safe delivery is assured. Otherwise, a doctor is summoned. Similarly, when the ear of the baby appears first, the *daya* attempts to turn the baby in the womb to lead the head out first. A child born arm first is considered stillborn, as the baby does not have enough control over its body to move into a proper birth position. In such cases, "any part of the body may come out first," and the *daya* does "not come near the mother." The *daya* rushes the woman to the hospital if there is excessive bleeding when the woman's uterus is still narrow or otherwise not ready for delivery.

Clearly, the *dayas* do everything in their power to correct the position of the child in the womb. However, when a *daya* feels that she is incapable of handling a delivery, she consults with the woman and her family. At times, the woman asks to be given more time, refusing to contact a doctor. The *dayas* said that such cases are rare and that generally the relatives of the woman are ready to follow the midwife's advice once she announces that she is no longer in control of the situation. In all cases, the *daya* accompanies the woman to the hospital, as there is a possibility of delivery en route.

In general, the *dayas* prefer the assistance of a private doctor, although this is the most expensive alternative available for helping with complicated deliveries. Many of the private doctors encourage — even urge — the *dayas* to bring complicated cases to them. A private doctor is also preferred because often the *daya* is allowed to assist with the birth. Through the exchange of conversation, the *daya* often receives additional medical knowledge. The doctor might tell her, for instance, that the woman needs a cesarean section and should have been brought sooner. While performing the operation, the doctor may also point out various aspects of the anatomy of the human body.

The *daya* has several roles during delivery, and all of her technical skills are directed toward safe delivery of the child. In addition, she mediates between the mother and the mother's family, as well as between the family and outside medical assistance in complicated cases. After delivery, she becomes involved in the care of the baby and performs related rituals.

Most of the *dayas* stated that they visit the mother on the 3rd day after delivery. Occasionally, a *daya* may visit the mother on the 2nd day if she lives close by or has some other reason for returning. A few *dayas* claimed to visit the mother every day. In fact, such visitation varies with the prestige and proximity of the family. The general expectation is that the *daya* will return on the 3rd day to

beautify the baby's eyes with *kohl*, which is believed to promote better vision. She bathes the baby if requested to do so but generally simply rubs the infant with butter to prevent the irritation of lice. In addition, she inspects the child's navel. If the umbilical cord is not yet dry, she applies talcum powder. *Kohl* is used as a substitute if powder is unavailable. The *daya* also helps the mother wash her vaginal area with warm water and advises her to drink *helba* with molasses if she complains of cramps.

In terms of the *daya's* technical skills, her assistance to both mother and child is minimal during this visit. The main reason for the visit is to find out whether the family will celebrate the *sebou,* or the 7th day. During the *sebou* the *daya* plays her most important ritual role, and she receives large sums of money for it. In poorer families unable to bear the expenses of this ritual, the *daya's* role after the delivery is minimal, and she receives her fee during the 3rd-day visit.

In families capable of financing the *sebou*, the *daya* performs rituals believed to protect the mother and child from evil spirits and the evil eye. Traditionally, the *sebou* is held on the 7th day following birth, but the timing may be changed if the family wishes. For instance, the date may be changed to ensure the attendance of an absent family member, to permit the purchase of an adequate supply of meat, or to placate a mother who has lost an earlier child after the *sebou.*

The flexibility regarding the date of the *sebou* and the possibility of dispensing with it entirely indicate that the ritual's social and economic significance for the *daya* and for the child's family outweighs its religious or protective significance. The *daya* is very active in the preparations for the carrying out of the *sebou*. She joins in the cooking of the food and sweets to be presented to the guests, bathes and dresses the child, makes charms for the child to wear, fumigates the house with incense, chants protective verses, meets and welcomes the guests, etc. Moreover, the *daya* receives from each guest a *noqta*, or small sum of money, and it is expected that the family of the child will reciprocate with a similar donation.

The Changing Role of the *Daya*

The role of the *daya* extends far beyond her functions during delivery, miscarriage, and abortion. For example, most of the *dayas* practice female circumcision, an operation still performed on 100% of the village girls between ages 7 and 10. Only two *dayas* stated that they do not perform this operation, adding that they had neither learned the skill nor desired to do so. They further explained that it is unnecessary that they do so, as there are many other women capable of doing it.

Traditionally, the *daya* also has played a prominent role in the celebrations leading up to marriage. She beautified the bride's hands and feet with *henna* on the night before the wedding, and on the evening of the marriage she performed the ritual that assured the villagers of the bride's virginity. In recent years, however, these wedding rituals have declined. With the growing acceptance of Western make-up techniques, many brides now prefer to beautify themselves without the assistance of a *daya*. Similarly, changing attitudes are affecting the *daya's* ritual role in confirming the bride's virginity. Many couples resent the presence of the *daya* on the wedding night, and only the very traditional families maintain the ritual. Some families, however, insist upon the public proclamation of the bride's virginity particularly if the bride's virtue has been doubted by the villagers. If the

girl has been involved in a premarital affair, her parents alert the *daya* and expect her to employ various tricks to prove the innocence of the bride. Several of the techniques used by the *dayas* in such cases are potentially harmful to the bride, as they often resort to injuring her to ensure that she will bleed.

If the young bride does not become pregnant, she consults her *daya*, perhaps seeing her as early as 2 months following the wedding. To ensure the bride's fertility, the *daya* asks her to perform any one of a number of technical and/or symbolic treatments.

An inability to conceive is often attributed to the presence of a cold in the woman's lower back. The *daya* may use heated glass sucking cups to extract the excess cold and thus promote conception. Sometimes, the *daya* advises the woman to insert a woolen cloth soaked in *helba*, salt, molasses, and ichthammol into her vagina for 3 consecutive days following menses. Part of the dried umbilical cord from another delivery may be inserted into her vagina. If these remedies fail, the *daya* may arrange for the woman to see a horrible object such as a corpse or a snake. She often prescribes a cure that involves the woman's bathing herself over a preserved fetus. Most midwives keep a preserved fetus buried in their homes for such purposes.

Traditionally, the *daya* has also played a minor role in prescribing various techniques of birth control, such as the insertion of aspirin into the uterus and the swallowing of seeds of castor oil. With the introduction of modern contraceptives, however, these techniques — which the *dayas* admit were never very effective — are no longer used. Although the *dayas* do not openly advocate the use of modern contraceptives, they recommend the use of an IUD or contraceptive pills when consulted. The IUD is the preferred method of birth control, as the pill is believed to cause many side effects that weaken the user. Moreover, the pill is seen as more problematic in that it requires a good memory and is susceptible to misuse. Nevertheless, two of the *dayas* themselves use the pills.

When recommending an IUD, the *daya* often accompanies her client to the doctor and acts as a liaison between the woman and the doctor more than as a source of treatment.

The proliferation of modern contraceptive methods within the villages has deeply affected the traditional role of the *daya*. One of the most recognized *dayas* of the area explained the current situation:

> ...In the past women were getting children constantly. Now childbirth has decreased. I used to deliver 20 cases each month, but now people are thinking of spacing their children. I don't encourage anyone to use contraceptives. But if someone comes to me and says, "This is the end of it; I don't want any more children," then I advise her to have an injection or two to delay conception. I got seven children within an interval of 15 years. Two of these children died. During the last childbirth I was going to die. I was in labour for 3 days. They wanted to get the doctor but I refused and said that I'm ready to die rather than have the doctor examine me. Finally, by the will of God, I gave birth. I then decided not to have any more children and I've been on the pill for 9 years. But as long as the woman's health is good and has resources a plenty, then she should not stop getting children until God wills.

In other words, the *dayas* do not encourage the use of modern contraceptives as long as a woman is financially able to feed and clothe her children. Two of the midwives, however, mentioned additional criteria, such as the ability of the mother to educate and care for the health of her children, as important factors. These two *dayas* regarded two or three children as the ideal number.

One of the roles that the *dayas* continue to perform is that of acting as liaison between the woman and the doctor whenever the woman needs gynecological care. Previously, however, this role was much more pervasive than it has been recently. In the past, the *dayas* were responsible for all of their clients' contacts with the maternal and child health clinics, especially when the child's health was involved. The *daya* was responsible for registering all births and for notifying parents of the need for required vaccinations. One *daya* explained:

> ...Previously we were responsible for birth registration. At that time, I found it illogical to go every day to the clinic, so I would collect all the births from 1 or 2 months' period and then go and register them all at once. Therefore, all the children would get the same birthday. Sometimes, I would forget the name given to a child. But knowing the names of the child's parents, I would give the baby any name that I liked. At times, it happened that two brothers found themselves with the same name. Now we are relieved of this job and the child's parents are responsible for registering the birth.

In the two villages that do not have health units, the *daya* still notifies the unit of a new birth by relaying this information via the telephone operator who serves the health units.

The Health Barber

In addition to grooming, barbers in Egypt are traditionally known for performing minor surgical operations and are capable of curing certain specific ailments. The health officials of the 19th and early 20th centuries in Egypt acknowledged and utilized the traditional experiences and training of the barber. Thus, some of the rural barbers were incorporated into the official health system and given the name *halaa seha* (health barber). In urban areas, barbers were also utilized in the health services and were called *halaa isaaf* (first-aid barbers).

To become a *halaa seha*, the barber took an examination about his acquired knowledge in the domain of health. He was then given a month of training and awarded a licence. Also, during epidemics, barbers were called upon to implement the sanitary cordon in their locality and in these instances they were called *halaa cordon.*

The Ministry of Health no longer utilizes this group officially, and no licences are being granted to barbers. Now, any barber who cures is automatically called *halaa seha,* whether or not he was once part of the officially licenced group. Only one *halaa seha* who participated in the official training remains in the four villages of our study, and he is now 80 years old. In the absence of written records of the role of *halaa seha* in the official system, I will present some abstracts from the life of this barber, Shams.

> ...My father was a poor landless farmer, and in order to support his family he let my older brother work as an assistant for a barber in the village. Thus my older brother Mostafa was the first member of the family to enter into this profession. My brother managed to affiliate himself with the government and became *halaa isaaf,* thus working in the *merkaz.* Being a barber, I acquired knowledge in curing certain cuts and abscesses. A barber is used to holding razors and this gives him instant confidence to perform surgeries.

...It was due to the fact that my brother was working in the *merkaz* that I started my work as a barber. Whenever there were any health campaigns, my brother would delegate certain responsibilities. Consequently, I actually worked from 1917 to 1920 as *halaa cordon* without being licenced. In 1921, I joined the training program and became the official cordon attendant of the village. Three years later, when all the licenced barbers in the area had died, I was appointed as *halaa seha*, and I am the last licenced surviving *halaa seha,* as no more licences were issued. I was responsible for the four villages of T, K, R, and G.

Shams, an 80-year-old health barber, took government training.

Qualifications and Entry into the Profession

Like many other traditional roles, the occupation of the barber in Egyptian villages is handed down from father to son. Although not all barbers are deeply involved in the traditional rural health system, they compose the group that supplies the village with surgeons and healers. "The main tool of the barber is the razor, and the main tool of the surgeon is also the razor," was the comment of one of the barbers when trying to explain why barbers engage in surgical operations. He added:

> ...the barber is used to manipulating the use of the sharp razor. He passes over the most sensitive parts of the body with the razor without endangering his client. This necessitates a "strong heart" and control of one's hands. Also, one knows what kind of wound the position of the razor's edge would produce. Furthermore, if a barber causes a wound by mistake with his razor, he should know how to heal it. It is part of the profession.

Although all barbers perform some minor healing practices, a few of them consider it to be their main occupation. Barbers who gain reputations as healers often give up their original occupation and become full-time healers. However, they continue to use the barber shop as their clinic. Very often, the son of a barber-healer will become a healer without necessarily going through the barber state and is called *halaa*, or barber. It is the category of barber-healers that concerned us in this research, whether they were once officially recognized as health barbers or acquired the reputation through their fathers.

Barbers have acquired their skills through the traditional means but also at times from modern medical training. In the past, in fact, many of them affiliated themselves with the formal health system.

Shams, who worked as a *halaa seha*, stated that the month of official training that he underwent to get his licence was all theoretical and that his practical training was obtained through working with the village doctor.

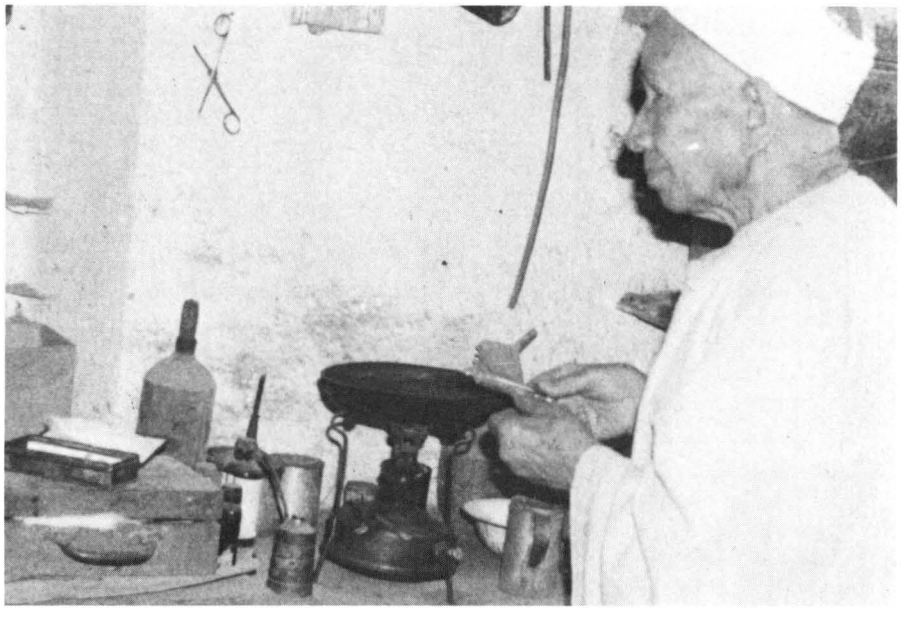
> ...In 1931 a medical doctor opened a clinic in the village. He was looking for a male attendant and chose me to work for him. He filled the role of school for me. I attended 1500 operations with him. I learned from him how to circumcise as well as how to dress wounds and prevent them from becoming infected. After 1957 when the health unit was constructed and the doctor left the village, I decided not to work for anyone but to practice my profession in my own shop.

Another *halaa seha* was asked whether he still used any traditional herbs for curing ailments and responded:

> ...Ever since the use of chemical fertilizers, traditional herbs are not effective any more. The human body, after eating food that is chemically treated, will not respond to herbs that grow naturally. The body needs medicine that is also chemically treated.

Technical Knowledge

One of the traditional jobs of the *halaa seha* is circumcising boys. There is hardly a single case of circumcision in the villages that has been handled by a



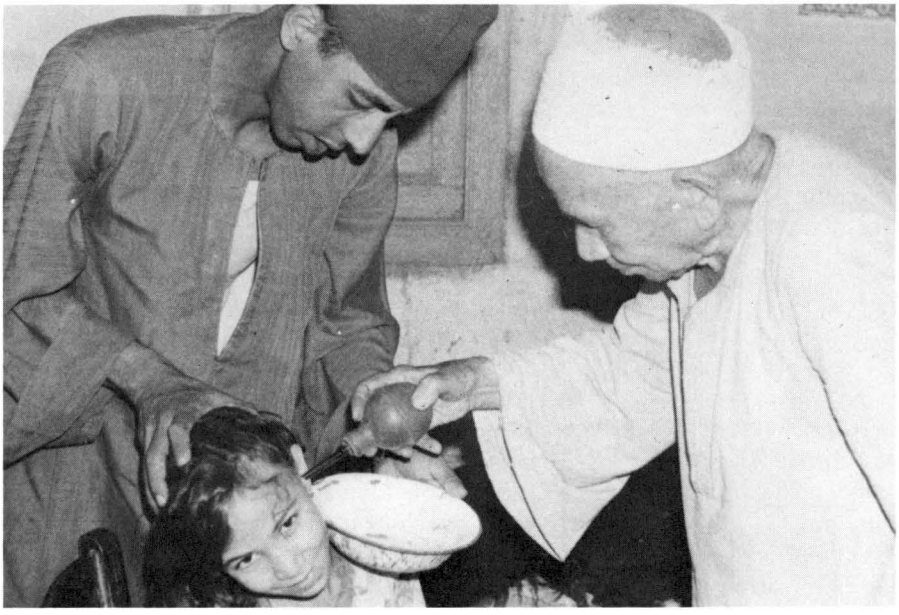
Shams' work bench includes a bunsen-burner-type apparatus, scissors, and medicines. He is preparing to give an injection.

doctor, regardless of the socioeconomic level of the villagers. One *halaa seha* estimated that during his lifetime he had circumcised 2500 boys. Another, who is younger, estimated that he had circumcised not fewer than 1000.

The villagers prefer to circumcise their children when they are about 4 or 5 years old, so that they are capable of protecting themselves and not touching the wound. The operation is usually performed at the child's home, and two men are asked to hold the child. No anesthetic is used. The barber cleans the penis with alcohol and performs the operation with a razor. He then applies mercurochrome to the wound and leaves it to dry. For 2–3 days following the operation, he visits the child for a routine check and applies some sulpha or mercurochrome to the wound. Every attempt is made by the barber and the child's family to encourage the child to urinate. The barbers believe that if the child is afraid to urinate and withholds the urine, infection of the wound may result.

One of the major skills of the health barber is giving intramuscular and intravenous injections. When a patient calls on a health barber and complains of a particular ailment, very often, the barber feels competent to diagnose the disease and prescribe medication in the form of an injection. The barbers interviewed claimed that they could identify symptoms and diagnose any type of ailment. Nevertheless, they do not treat all kinds of diseases, referring some cases to the doctors in the *merkaz* or the capital. The following comment describes the relationship between the barber and the doctor.

> ...If a patient complains of a cold or some such ailment, I give him a Novalgin injection. But if I diagnose the disease and find that it is a serious one, I take the patient to a specialist in a nearby town. This way I also make a profit. I have contacts with certain doctors who like me very much. They give me a 20% commission from their profits. In addition, the family of the patient



Health barbers like Shams perform minor surgery such as circumcision and treat many ailments such as ear problems for the villagers.

> awards me for my efforts. At first, I used to handle all the cases that came to me, but now I find it safer to cooperate with the doctors. Any doctor who wants to open a clinic in the nearby area contacts me so that I will transfer patients to him.

Eye Diseases: Each barber has a preferred recipe for eyedrops. One of them uses silver nitrate that he mixes with distilled water. He buys the distilled water prepared for penicillin ampoules. He applies this mixture to the eye for about 5 consecutive days. This remedy is used when the eye is red. Another barber said:

> ...sometimes patients come to me, and when I look at their eyelids I find that there are granules which look like sand. I tell them that they will be charged £5 if they go to the doctor, whereas I could do it for 50 piasters. I use a scalpel or lancet lightly to scratch the granules and then use penicillin ointment.

Health barbers also use caution in handling ear troubles. They first look with the bare eye into the ear. If they find that the problem is caused by the presence of "just dirt," they clean the ear with a syringe using oxygen. If they find that pus and yellow water are present, they also wash the ear and then give the patient penicillin injections for the next 6 days.

Skin Diseases: Traditionally, skin diseases were usually treated by the health barbers. They cured scabies and rashes. Many of them have claimed that skin diseases are now present in greater variety and are more difficult to treat than they once were. They are often diagnosed by the doctor as allergy. Such a term is unfamiliar to the health barbers and puzzles them. Only one barber stated that he still cures skin diseases. He has one medicine for all types of skin disease — the milk injection. He claims that he learned this treatment from a doctor and says that he is the only person in the area who knows its utility and the method of preparation and administration.

Surgery: In addition to circumcision, the *halaa el seha* performs some minor surgery. He is most renowned for treating abscesses. The villagers express the view that the *halaa el seha* is preferable to the doctor in the case of abscesses, because he is cheaper and always at hand to dress a wound that needs patience and time to heal. Moreover, the cures of the barbers have proved to be effective. Health barbers differentiate between abscesses, such as those that are elongated and those that are circular. Each type should be cut from a different angle. To help the opened abscess heal, the health barber uses a gauze dressing to fill the opening. The patient sees the barber daily to change the dressing. Two types of abscesses that the health barber refrains from handling are those occurring in the anus and those in the chest close to the lungs.

Doctors of the health unit are not allowed to suture wounds. Health barbers perform this kind of operation daily and meet the constant demand for suturing small cuts. Thus, the villagers avoid traveling into town for treatment.

The health barber uses few and simple tools for his surgeries. He depends mainly on the razor, medical needle, and thread. He also has access to local anesthetics, which he applies to the wound before cutting or suturing. After an operation, he often gives the patient antibiotic injections to help the wound heal quickly. The barbers acknowledge that they have learned surgery from doctors, either through working with them or through accompanying patients to the doctor and observing the work.

The villages of the research have no pharmacies or drug stores. Thus, a villager who goes to a health barber expects to receive medication during the visit. The strength and power of the health barber therefore depends upon his access to medicine. Very often, he cannot afford to have a stock of expensive medications. Consequently, although he may realize that a particular medicine is the correct treatment for an ailment, he does not recommend it because he cannot afford to keep it on hand. Furthermore, he is not sure whether the patients themselves would be willing to pay for such expensive medication. To overcome this problem, the health barber may convince the patient that the ailment is serious enough to require treatment by a specialist. He is ready to accompany the patient to a specialist outside the village.

In general, the health barbers may be regarded as general practitioners who proclaim themselves capable of curing any kind of illness. The major restriction on their performance is the cultural expectations. Health barbers are expected to perform a general and complete type of service. They should be able to recognize symptoms, diagnose disease, prescribe and provide medication. A good health barber gives the patient his undivided attention.

Folk Healers

Folk healers comprise illiterate, elderly women who have learned their skills from their families or from their neighbours. They work on a part-time basis, and the income that they derive from the profession is negligible. In fact, the job is often performed as a charity. The four villages of our study have eight individuals who treat sprains, twisted backs, infected mouths of children, sunstroke, and "moved hearts." Not all of them treat all of these ailments, but each has some skill in curing one or two of them.

Sprains and Twisted Backs: Sprains are massaged with warm oil and then wrapped with a piece of old cloth. Similarly, when adults twist their backs, the back is massaged with warm oil and then wrapped in a shawl. The patient is advised to rest for 2 days. Babies often twist their backs, a condition called *mazaa.* In rural Egypt, where girls as young as 4 or 5 years are allowed or even required to carry their younger siblings, the baby often develops a twisted back. The symptoms of this condition are recognizable if the baby cries a lot, especially when changing his or her position. This condition is cured by spreading a sheet and putting the child in the middle. Two persons then roll the child back and forth.

Infected Mouths: A child who refuses to be nursed because of a sore mouth is often taken to a folk healer. One such healer described the symptoms: "You find in the top of his mouth a swollen spot as big as a grain of wheat. The mouth smells bad and the child's eyes are red." The infant's mouth is wiped with either sesame or peanut powder, or with a mixture of milk and lemon. The healer dips three fingers into the mixture and then wipes the mouth firmly. This treatment is repeated for 3 consecutive days and should be done at sunrise or just before sunset.

Sunstroke: Villagers are often exposed to sunstroke. If someone complains of headache after spending the day in the fields, he or she is said to have sunstroke. The specialist recognizes the symptoms by measuring parts of the head. A piece

of cloth is used to measure the length from one ear to the other from the back, and then the length from one ear to the other from the front is measured. If there is a difference between the two measurements, the skull is said to have been "opened," and in need of "closing." The treatment is performed by wrapping the forehead with a piece of string and twisting a knot with a key so as to make it very tight, to the extent of causing the skull to make a cracking noise. Then the knot is untied and the patient is cured.

"Moved Heart": When a woman complains of fainting as a consequence of working hard or carrying something heavy, it is said that her heart has "moved." The healer puts some honey on her fingers and spreads it on the left side of the woman's chest. Then she sprinkles some flour on the honey and massages the chest until the honey absorbs the flour. Once the flour is absorbed, the heart returns to its place.

With the exception of sprains, the above ailments are all basically complaints of women and children and are treated by women specialists, who are not taken very seriously by the villagers and are not often called upon to provide treatment. They still exist because their fees are low and they do not expose the patient to great risks.

Use of Available Health Care Resources

The extent and degree to which the villagers use the various health services is commensurate with their conceptions of the value of health, the causes of disease, and their evaluation of the resources that are present, including the personnel and services available. Health is often referred to as "the most precious possession one has in this world." When illness occurs, every possible effort is made to cure it — modern or traditional medicine or magico-religious means. The various techniques of healing may be utilized consecutively or simultaneously.

At times of illness, all available methods of treatment are sought; yet magico-religious means are most commonly used to prevent illness. Prevention of illness is considered to be tampering with the future. The future is synonymous with the unknown and is the province of God alone. No one can prevent disease, but through appealing to God and wearing protective charms, one may be able to moderate or avert harm. According to this philosophy, it is easier for innovators to convince villagers to use a new medication than to persuade them to adopt measures for preventing a disease. A good example is the villagers' attitude toward the treatment of schistosomiasis. They know the symptoms of the disease and seek treatment for it despite hazards and inconvenience involved in treatment. Yet, it is very difficult to convince them that the disease could be prevented by abstaining from drinking water directly from the river. This philosophy of not interfering with the future is aggravated by the villagers' ignorance of the causes of illness.

Among the villagers of Qalyubia, three main agents are considered to be responsible for causing sickness: *al-hawa* (literally, air), *al-hassad* (evil eye), and *al-amal* (black magic). *Al-hawa* is seen as a natural cause, whereas *al-hassad* and *al-amal* are magico-religious causes.

As a cause of disease, *al-hawa* refers to air, atmosphere, wind, draft, weather, or climate, any of which can cause illness. Sickness occurs as a consequence of a person's warm, covered body being suddenly exposed to open air. *Al-hawa* is responsible for a wide array of illnesses, ranging from simple colds to infantile paralysis.

Throughout the Muslim world, *al-hassad,* the evil eye, is believed to cause disease and is mentioned in the Koran. The evil eye can harm any aspect of a person's life — home, farm, money, food, or health. Any disease can be caused by the evil eye. Villagers carefully differentiate between ailments that are caused by the evil eye and those due to natural causes:

> ...It is true that the sickness caused by the evil eye is similar to any other sickness. However, when the patient goes to the doctor, the doctor will be able to diagnose the disease properly, but the patient will not respond to medication [if the cause is *al-hassad*]. The doctor and the medicine could be changed, but still the patient will not respond. It is then that we know that the patient has been subject to the evil eye.

Villagers commonly believe that a person stricken by the evil eye is doomed to die. It is said that "half of those in the groves were subject to the evil eye." Therefore, villagers, especially children, wear amulets and charms to protect them from the evil eye. An ailing villager who consults one specialist without success and who later consults another and improves may accuse the first specialist of bad treatment; but if the villager dies, neither specialist is blamed, as the influence of the evil eye is seen.

Al-hassad is caused by an envious look, inadvertently given by certain individuals who cannot control the harm they do. *Al-amal*, on the other hand, is black magic that is deliberately performed for the purpose of harming someone. Anyone suspecting *al-amal* consults a specialist in undoing magic.

Magic is acknowledged in the Koran, and those who perform it utilize the *jinn* (spirits). It is considered a sin to involve oneself in such matters. Many villagers say that they do not believe that illness can be caused by magic, but the accusation of practicing magic remains powerful and can cause great tension among relatives or fellow villagers.

Faith in medical doctors and modern medicine in general is beyond question in the villages, but villagers still resort to other means of health care. There are certain domains in which traditional practitioners are known to perform better, an example being childbirth. The role of the *daya* remains largely unchanged from its traditional form, and the midwife has no fear of competition. Childbirth is considered to be a natural phenomenon needing an experienced woman to assist with delivery. Appeal to medical doctors is seen as relevant only to cases of complicated deliveries.

In contrast with that of the *daya*, other traditional roles are either undergoing drastic changes or withering away altogether. The role of *halaa el seha* has been abolished by the government but is far from being dead. I believe that the role has been adopted, with some modifications, by health unit workers and paramedicals.

At one time or another, attempts have been made by the formal system to incorporate these two traditional practitioners and expose them to modern concepts of medicine.

The two areas of medicine where health unit services do not compete with traditional services are those of midwifery and circumcision. These are areas that involve "hand skill" rather than medication. Thus, there is no "trespassing" in these areas. Traditional *dayas* are not afraid of competition, and they do not seek to join the health unit staff. Traditional healers are also uncontested as masters of some mechanical operations, such as opening external abscesses, giving injections, and reshaping twisted muscles or bones, all of which require manual skills. Barber healers are evaluated on the basis of the number of boys they have circumcised.

The women healers of specific ailments have not developed their roles, and their professions are dying out. They are not equipped to operate within the changing cultural framework of knowledge, beliefs, and values. But a new group of women healers who rely chiefly on modern medical techniques has developed outside the formal medical system; they are wives of workers in the health units or of health barbers, working as assistants to their husbands. Their husbands have trained them to give injections and change dressings on wounds. There are about six such women in the villages under study performing these jobs, and they mostly serve the female population.

When villagers feel that an ailment is a simple one, they often consult a local practitioner. To them, symptoms of serious diseases, especially among children,

consist of a high fever and severe pain. Villagers realize the limitations of the local practitioners, who are ranked as secondary to the doctors, but credit them with having some healing knowledge. When villagers consult a doctor, they allow ample time for the therapy to work before turning to other sources of health care, but when they consult traditional practitioners first, they expect rapid relief; if it is not forthcoming a doctor is consulted.

The following account of a male farmer illustrates the interplay and trust among villagers, traditional healers, and medical doctors.

> ...My boy fell while playing in school with his friends. When he came home he complained of pain in his arm. I sent for the bone-settler. While massaging the arm the boy pointed out to me a spot under his arm where pain was localized. I looked at it and found that it was swollen. The bone settler said that it was due to the fall, but I instructed him to stop massaging and let the child alone. I immediately took the boy to the health unit to see the doctor. I found out that he was on holiday, so I went to the health barber. He said that the boy had an internal abscess and he could operate on it. I told him don't do that, but just give him something to relieve the pain. He gave him some pills and an injection, and we waited until the next day when the doctor came and operated. Afterwards we went several times to another health barber who also works in the health unit's clinic to dress the wound and give the boy some penicillin injections.

Local practitioners are often consulted to give the villagers reassurance as to the quality of the medication provided by the doctor and as to the fame of the doctor they have consulted. Also, a villager may ask a local practitioner for the name or address of a good doctor or may call upon a literate practitioner to explain instructions that come with prescribed medicines.

Villagers realize that if the doctor of the health unit is available and the dispensary contains medicine, then the clinic is the fastest and cheapest service they can obtain. However, it is not possible to find the doctor at night in some villages. Also, the dispensary is without medication most of the days of the month, a fact that rationalizes the doctor's being absent even during daylight hours. Poor people and those who live near a health unit always give it a try before appealing to other sources for help. Those who live at a distance prefer to consult private practitioners in a nearby town or to travel to Cairo; they feel that, too often, attending the health unit is a waste of time and energy because of the inconsistent supply of medications.

Conclusions and Recommendations

The range of services offered in the rural health units indicates that Egypt has a formal health structure superior to that of many developing countries. It is a system whose services reach out and are accessible to almost all villagers. Certainly there are weaknesses in the system in terms of implementation and operation, but the villagers perceive the weaknesses as due to bureaucratic problems rather than intrinsic ones. Thus weaknesses or inefficiencies in the system do not decrease faith in modern practices. There is still a deep commitment, however, to using all available health services. As a result, the villagers maximize use of available services and manipulate them, through fellow villagers who work in the health units, to their own advantage.

Formal rural health care in Egypt is a result of government policy that, in one way or another, encourages popular participation. The administrative process is one whereby the intended beneficiaries of a particular program have a role in its implementation. With the exception of the doctor of the health unit, all staff members are from the local area. Thus, knowing the cultural characteristics of their fellow villagers, they are capable of gearing policies to meet the values and needs of the local people. Even the disadvantage of having excess personnel in the health unit can be seen as beneficial, as the health unit workers are the liaison between the bureaucratic and formal procedures and the villagers. They function as an advisory board counseling the doctor on how to handle particular situations. On the other hand, they ease the way for the villagers to understand the logic of modern medical technology.

At present, this army of workers is involved in curing disease. If through training and education they could be directed toward preventive medicine, then they would be real catalysts in the development of better health care. Furthermore, traditional practitioners such as midwives and barbers should be incorporated into the formal health system. The licences that were given in the past to traditional practitioners who went through an official training period succeeded in producing individuals more qualified than those who acquired the profession solely through traditional means. The Ministry of Health would benefit a great deal if a training course were to be offered to these individuals once again, particularly as these individuals are always keen to add to their skills.

The daily crowd visiting the health units is always beyond the capability of any one doctor. Village doctors and health unit personnel believe that many of the complaints of the villagers are not basically physiologic nor serious. Thus they have placed restrictions on the utilization of health services, introducing an extra fee for "special examinations." Nevertheless, when they believe that a patient is actually sick and cannot afford a special examination, they work toward giving that client a free examination. Having fees for medical care is not recommended here as a way of counteracting the abuse of available services, but efforts should be made to create more awareness among the villagers as to the appropriate use of

the services. In addition, the health personnel should be given higher salaries so that they are not encouraged to abuse the system.

The real abuse occurs when the free medicine in the unit's dispensary is reserved for those who come for a special examination or when workers of health units acquire this free medicine and then prescribe it to their private patients for a fee.

The key to understanding rural health care is examining policies dealing with medicines in Egypt. Although unlimited access to medications often leads to overuse and abuse by both the users and the prescribers, the villagers believe that increased availability of pharmaceuticals is more important than any other improvement in medical service. Health units allocate only £700 per month to medicine compared with £2000 to personnel. The villagers believe that the shortage of medicine is the real problem of the formal health system, and it is often remarked that what the village needs more than any other service is a private pharmacy that is legally regulated and stocked.

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